

June 14, 2024 10:30 am - 01:30 pm 1T00837 - B.E.(Electrical Engineering)(SEM-VII)
(Choice Base Credit Grading System)(R- 2019-20)(C Scheme) / 42288 - Energy Audit &
Management qp code: 10055359

3 hours

80 Marks

Instructions:

1. Question Number **1** is **Compulsory**
2. Attempt **ANY THREE** Questions out of remaining **FIVE**.
3. Use illustrative diagrams wherever required

Q1) Attempt any **FOUR**

- a) Differentiate between energy conservation and energy efficiency. **05**
- b) Explain renewable and conventional energy sources giving examples. **05**
- c) Enlist any five energy audit instruments and respective measuring parameter? **05**
- d) Define simple payback period (SPP). Write the equation to calculate SPP. **05**
- e) What do you understand by the term ENCON? Give examples. **05**

- Q2)**
- a) What do you mean by energy audit. What are the base line data that an audit team should collect while conducting detailed energy audit? **10**
 - b) List any TEN energy conservation measures in residential society and houses. **10**

- Q3)**
- a) How does an energy auditor assess the performance of steam trap during energy audit? **10**
 - b) i) Explain why dry saturated steam is preferred over wet or superheated steam for industrial process heating. **10**
ii) Why should one use dry saturated steam at the lowest possible pressure for indirect steam heating?

- Q4)**
- a) What do you mean by kW/TR pertaining to refrigeration? What are the parameters required to be measured while estimating the chillers performance in KW/TR? **10**
 - b) How do you calculate TR across the Air Handling Units (AHU)? **10**

- Q5)**
- a) List any five energy efficiency measures in lighting system. **10**
 - b) Discuss the following principles of energy auditing **10**
i) fuel and energy substitution ii) Optimizing the input energy requirements

- Q6)**
- a) Enlist five energy saving measures in a commercial building. **05**
 - b) List general fuel economy measures in Boilers. **05**
 - c) What are the energy conservation opportunities in water pumps? **05**
 - d) Write the circumstances in which variable speed drives are recommended? **05**

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